Claims

I claim:

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1. An apparatus comprising:

an eye tracking system for determining an eye-gaze direction line of a user looking at a display screen of a display device;

an eye-gaze tracking module for extracting the eye-gaze direction from the eye tracking system and for determining an intersection point where the eye-gaze direction line intersects with the display screen;

wherein the eye-gaze tracking module sends the intersection point data to a scalable video decoder; and

wherein the scalable video decoder receives an encoded video stream and provides a first set of higher video resolution data to a first region surrounding the intersection point on the display screen and a second set of lower video resolution data to a second region of the video screen.

The apparatus of claim 1, wherein the scalable video
 decoder provides a video decomcompression algorithm selected
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- from the group consisting of MPEG-2, MPEG-4 and H.263 for
- 4 decoding the encoded video stream.
- 1 3. The apparatus of claim 1, wherein the encoded video
- 2 stream is selected from the group consisting of graphics,
- 3 animation, and alpha numeric data.
- 1 4. The apparatus of claim 1, wherein the second region on the video screen includes a plurality of regions with differing video resolutions.
 - 5. The apparatus of claim 1, wherein the eye tracking system includes an eye pupil movement detector.
 - 6. The apparatus of claim 1, wherein the second region on the video screen is dimmer than the first region on the video screen.

7. An apparatus comprising:

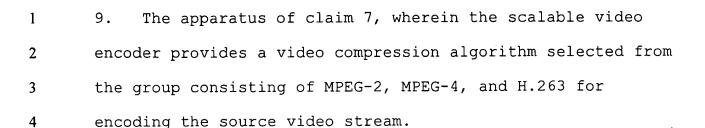
an eye tracking system for determining an eye-gaze direction line of a user looking at a display screen of a display device;

an eye-gaze tracking module for extracting the eye-gaze direction from the eye tracking system and for determining an intersection point where the eye-gaze direction line intersects with the display screen;

wherein the eye-gaze tracking module sends the intersection point data to a scalable video encoder; and

wherein the scalable video encoder receives a source video stream and provides an encoded first set of higher video resolution data to a remote video decoder and an encoded second set of lower video resolution data is provided to the remote video decoder.

8. The apparatus of claim 7, wherein the encoded first set of higher resolution data is decoded in the remote video decoder and provided to a first set of higher video resolution data to a first region of the display screen and a wherein the second set of lower video resolution data is provided to a second region of the display screen.



- 1 10. The apparatus of claim 7, wherein the source video 2 stream is selected from the group consisting of graphics, 3 animation, and alpha numeric data.
 - 11. The apparatus of claim 7, wherein the second region on the video screen further includes a plurality of regions with differing video resolutions.
 - 12. The apparatus of claim 7, wherein the eye tracking system includes an eye pupil movement detector.
- 1 13. The apparatus of claim 7, wherein the second region of 2 the video screen is dimmer than the first region of the video 3 screen.

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1	14.	Α	method	comprising

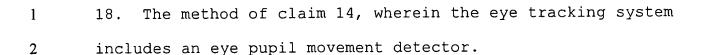
providing a display screen;

determining an eye-gaze direction line of a user looking
at the display screen;

determining an intersection point where the eye-gaze direction line intersects with the display screen;

providing a video stream to a scalable video device; and wherein the scalable video device provides a first set of higher video resolution data to a first region surrounding the intersection point on the display screen and a second set of lower video resolution data to a second region of the video screen.

- 15. The method of claim 14, wherein scalable video device is a scalable video decoder or a scalable video encoder.
- 16. The method of claim 14, wherein the video stream is selected from the group consisting of MPEG-2, MPEG-4, and H.263 for encoding the video stream.
- 1 17. The method of claim 14, wherein the second region on the
- video screen further includes a plurality of regions with
- 3 differing video resolutions.



- 1 19. The method of claim 14, wherein the second region of the video screen is dimmer than the first region of the video screen.
- 1 20. The method of claim 14, wherein the video stream is an encoded video stream.
 - 21. The method of claim 14, wherein the display screen is selected from the group consisting of a computer, a television, and a personal digital assistant.